

## CLAIM PENDING IN INSTANT APPLICATION

1. (Twice Amended) A diagnostic kit for the diagnosis of tuberculosis and other mycobacterial infections in humans and animals comprising:

(i) an enzymatic test kit for the determination of the activity of alanine dehydrogenase (E.C. 1.4.1.1), comprising L-alanine, nicotinamide adenine dinucleotide (oxidized form; NAD<sup>+</sup>), phenazine methosulphate (PMS) and nitroblue tetrazolium chloride (NBT); and

(ii) a nucleic acid consisting of a DNA sequence selected from the group consisting of the following partial sequences of the alanine dehydrogenase gene of *M. tuberculosis*:

| Name      | Sequence                        | SEQ ID NO: | Orientation |
|-----------|---------------------------------|------------|-------------|
| AlaDH-F1  | 5'-ATGCGCGTCGGTATTCCG-3'        | 11         | forward     |
| AlaDH-F1+ | 5'-GCGCGTCGGTATTCCGACCG-3'      | 12         | forward     |
| AlaDH-F2  | 5'-GAGACCAAAAACAACGAA-3'        | 13         | forward     |
| AlaDH-F4  | 5'-GAATTCCCATCAGCAATCTTGCAGA-3' | 14         | forward     |
| AlaDH-F5  | 5'-GCCCCGATGAGCGAAGTC-3'        | 15         | forward     |
| AlaDH-F6  | 5'-GGGGCCGTCTGGTGCC-3'          | 16         | forward     |
| AlaDH-F7  | 5'-GACGTCGACCTACGCGCTGAC-3'     | 17         | forward     |
| AlaDH-R1  | 5'-CTCGGTGAACGGCACCCC-3'        | 18         | reverse     |
| AlaDH-R2  | 5'-GGCCAGCACGCTGGCGGG-3'        | 19         | reverse     |
| AlaDH-R3  | 5'-CACCCGTTCGGACAGTAA-3'        | 20         | reverse     |
| AlaDH-R4  | 5'-CGCGGCCGACATCATCGC-3'        | 21         | reverse     |
| AlaDH-R5  | 5'-GGCCGACATCATCGCTTCCC-3'      | 22         | reverse     |
| AlaDH-R6  | 5'-CGAGACTAATTGGGTGCCTTGGC-3'   | 23         | reverse     |
| AlaDH-R7  | 5'-ATTGGGTGCCTTGGC-3'           | 24         | reverse     |
| AlaDH-RM  | 5'-GGCGGCGAGTCGACCGGC-3'        | 25         | reverse     |

and sequences that are hybridizable therewith under the following conditions: annealing 2 minutes at 69°C and extension 3 minutes at 72°C at a 1.5mM concentration of MgCl<sub>2</sub>, for the diagnosis of tuberculosis and other mycobacterial infections in humans or animals.